

133750 /agoras

September 11, 1970

Mr. C. Timothy Slack  
Coatesville City Engineer  
City Hall  
Coatesville, Pa. 19320

Dear Mr. Slack:

Please accept my apologies for not forwarding the written report on the Dick Lagoon incident sooner.

Each sample was given an identification number and the descriptions are at the bottom of the report sheet. The testing parameters are indicated by symbols. COD refers to chemical oxygen demand and TDS103 is total dissolved solids at 103°C evaporating temperature. TOC is for total organic carbon. The data is report in parts per million units.

The results for sodium, magnesium, potassium, calcium, nickel, copper, cobalt and zinc fall within natural limits for samples 235 through 239.

The results from chromium (235, 236) are higher than usual but meet the American Public Health Service (APHS) standards for drinking water.

Iron results (235, 236, 238, 239) were much higher than the usual range (0.1 - 0.3) found in the County. Iron at 0.3 mg/l is considered non-deleterious to domestic water supplies.

Manganese levels (235, 236, 238, 239) are extraordinarily high for this area (range 0.0 - 0.3 mg/l). Limiting concentrations from 0.02 to 0.5 mg/l are recommended for domestic water supplies.

COD values (240, 180) are very high. The normal COD range for streams in the northwestern part of the County is from 5.0 to 20.0. These high values suggest oxidative organic contamination which absorb oxygen.

The TOC value (240) corresponds to the COD (240) value. A TOC of 2-5 mg/l is the normal. 48 mg/l indicates very high organic carbon values.

Sample 240 is very hard and had a high TDS103°. Also, normal phosphate levels run about 0.1 mg/l. The level reported is extremely high and could be responsible for stimulating eutrophic conditions in a stream. Another consideration is that concentration of phosphates at over 1.5 mg/l will adversely effect coagulation in water treatment processes.

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There were no physical changes observed in samples 235, 236, 237, 238, 239 or 1 during the testing period. Sample 240 underwent dramatic color change from a charcoal color to a sandy color in about 4 days. A sandy precipitate occur in about one week leaving a slightly turbid supernatant liquid.

If there are any questions concerning the report or if I can be of further assistance to you, please contact me.

Sincerely,

Patricia S. McLaughlin  
Chemist

PSM:mc

Enclosure

cc: Mr. Thomas Cahill, Sanitary Engineer

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